CLAIM LISTING

1-33.   (Cancelled)

34. (New) A method for optimizing power consumption in a communication system comprising a network interface and a host computer, the method comprising:

determining, by the network interface, at least one power mode of the host computer from a plurality of possible power modes; and

selecting, by the network interface, at least one network interface power management state from a plurality of possible power management states based on the at least one power mode determined.

35. (New) The method of claim 34, wherein the network interface is operably coupled to the host computer and provides access for the host computer to the network, and wherein the network interface:

locally detects a volume of traffic received by said network interface; and

locally selects at power management state for the network interface device from a plurality of possible power management states based on the at least in part of the volume or traffic received by said network interface.

36. (New) The method of claim 35 wherein said plurality of possible power management states comprises at lease one of

a first, second and third power management states.

37. (New) The method of claim 35 wherein locally selecting comprises operating the communication device at a frequency supporting high bandwith transmission.

38. (New) The method of claim 37 wherein locally selecting comprises operating at least a portion of the communication device at 62.5 mHz.

39. (New) The method of claim 35, wherein locally selecting further comprises reducing a throughput of the communication device.

40. (New) The method of claim 39 wherein locally selecting comprises reducing the throughput of the communication device from about 1000 Base-T to about 10 Base-T.

41. (New) The method of claim 35 wherein locally selecting comprises switching to a slow clock during at least one power management state.

42. (New) The method of claim 41 wherein locally selecting comprises switching to a 6.25 mHz clock.

43. (New) The method of claim 35, wherein locally detecting by the network interface operably coupled to the host computer to provide access to the network, further comprise detecting whether the host computer is using battery or AC power and wherein selecting the power state further comprises selecting the power state at least in

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part on the detection of whether the host computer is using battery or AC power.

44. (New) The method claim 35, wherein locally detecting by the network interface operably coupled to the host computer, further comprises detecting battery usage and the presence of a link, and wherein selecting the power state further comprises:

configuring a PHY layer to restart and negotiate at a predetermined speed; and

increment advertized capabilities until link presence is detected.

45. (New) The method of claim 35, wherein locally detecting by the network interface operably coupled to the host computer, further comprises detecting absence of traffic on the link, and use of a battery by the host computer; and wherein selecting at state wherein the PHY layer uses polling.

46. (New) The method of claim 35, wherein the locally detecting by the network interface operably coupled to the host computer, further comprises loss of signal on link and wherein selecting by the network interface further comprises:

switching a clock speed from a MAC layer to the PHY layer.

47. (New) A system for optimizing power consumption in a communication system used in a Gigabit Ethernet environment comprising:

a PHY configurably coupled to the host processor and adapted to locally detect at least one host power mode from a plurality of possible host power modes, and locally select, based at least in part on the host power mode detected, at least one power management state from a plurality of power management states for operation of the system; and

a MAC interfacing with at least said PHY.

48. (New) The system of claim 47, wherein said PHY comprises a single chip multi-sublayer PHY.